

those of the State Society that do much to correct these evils. Every county society should be represented by an active delegation, and particularly by the secretary of the society, for on him falls most of the work; where there is a good, active secretary, there will be found a good live county society, and as the secretary is the working member of the society, he certainly should attend the meeting of the State body and participate in its work. Next month we hope to publish an outline of the program which, the JOURNAL is informed, will be unusually good and will embody some very carefully thought-out changes from the regular order of things. Do not fail to attend.

Now and then there is something that comes along and encourages those who are working for better organization of the medical profession and more active enlightenment of the public. In this issue there are two items, to be found elsewhere, which are very encouraging. One is the information furnished by Dr. Hoag as to the supervision of school children in Pasadena. In the education of our children we, as a people, offer another striking illustration of our almost total disregard for life and health, with a full appreciation of wealth and what goes to the getting of it. Thus we recognize by the existence and maintenance of our public school system, the value and the benefit to the individual of an education; but we do practically nothing to supervise the health of the growing child when he is being educated. We offer no protection to him, in either health, life or the aid in his own individual efforts which may be suggested by competent medical supervision. Here and there about the country one may note a school in which there is an occasional or periodic examination of school children, but the continued supervision of them during their entire stay in the school, as indicated by Dr. Hoag, is almost unique. And it is right that this work, as he justly points out, of tremendous value to the child, should be paid for just as much as the work of the one who teaches the child common knowledge should be paid for. It is true that our profession is altruistic, but that we should be called upon to do work of this very necessary and valuable nature for nothing, is carrying altruism to the point of absurd imposition. Communities of men will devote their energies and their resources to the conservation of material prosperity and not murmur; but when they are requested to devote some portion of their resources to the conservation of their own health and sanitary welfare, they do more than murmur—they howl. Why?

The other item of encouraging information is the report of the year's work which comes from Santa Barbara County. Here is one of the smaller counties of the State, having a county society which is not and can not be a large one, yet which has done much during the past year to bring the members of the

profession in touch with each other, and the profession of the county in touch with the citizens. Matters of hygiene, public health, sanitation, and the like, should be subjects for common discussion between physicians and laymen of all of our communities, through the medium of the county medical society. This has been written of so frequently in the JOURNAL that perhaps the iteration may become tiresome; yet it will continue to be referred to. Santa Barbara County is to be highly congratulated upon its county society, and the JOURNAL urges the society to continue, in the coming year, the excellent work it has begun in the year just closing. Meet frequently with the laymen of your community and teach them something of the work our profession is trying to do—for their own good and their own benefit, so that they may aid and not hinder us in the work.

In a recent issue of the JOURNAL we stated that the *Western Druggist* had been guilty of printing an untruth when it said that Dr. McCormack was not correct when he accused the N. A. R. D. of pernicious activity in the various legislatures against pure food and drug legislation, and we proved it. The *Western Druggist*, in reply, can find nothing to say except to make a personal attack upon Dr. Philip Mills Jones and accuse him of all sorts of things in connection with his active support, a few years ago, of the plan to establish a bureau for the certification of standards of food and drugs—a plan, by the way, which could not have been so awfully bad, for the Council on Pharmacy and Chemistry is now doing all the work, or most of it, that was contemplated by the old bureau plan, and the United States is doing all the rest under the pure food law. This is said merely in passing, however; the really amusing thing is the way so many of those who fatten at the nostrum trough seem to think that personal abuse is argument, and that if they can only hit a few heads with the seductive brick-bat, they will stop the onward march to pharmaceutical cleanliness and decency. Not so, gentlemen; try again. By the way, if that allusion to "the office shotgun" was in the nature of a threat, the JOURNAL takes pleasure in advising the *Western Druggist* that Dr. Philip Mills Jones visits Chicago every year—and he is not at all superstitious.

Occasionally, as one contemplates the medical profession in its sociologic aspects, he may see something cheerful and encouraging him to believe that the formerly all-pervading envy, hatred and malice is somewhat giving place to respect, friendship and co-operation. Indeed, when one thinks that up to a very few years ago our profession was to all intents and purposes absolutely without organization, and that the various units were either busily occupied in hammering each other, or dividing up into squads for the purpose of hammering other squads, any harmonious action, any

expression of cordiality, comes as a distinct sensation and indication of progress. One of the most delightful illustrations of this progressive feeling of better things was recently offered by the medical profession of the County of Los Angeles in giving, on November 16th, a banquet to the health officer of the county, Dr. L. M. Powers. Some two hundred and fifty physicians gathered together to do honor to themselves and to Dr. Powers, and the cordiality and sincerity of the event could not have failed to affect and instruct every one present. Think of it! Two hundred and fifty doctors actually coming together for the sole purpose of testifying to their support of *one of their own profession!* And surely it must have been an object lesson to the mayor and the members of the council who were present, to see with their own eyes the attitude which the medical profession took toward the health officer. And it was an assemblage without school, without sect and without prejudice; all schools and all cliques were there—and "clique" is not used in a disparaging sense. And all had something to say in praise, support or commendation of Dr. Powers. It would be a mighty good thing if the members of our profession would get together more often for similar peaceful demonstrations.

THE PROPHYLAXIS AND ERADICATION OF PLAGUE.

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The consideration of the causes of plague naturally leads one to ask what measures should be adopted to stamp out the disease. Knowing the cause, the mode of transmission, and many of the contributory factors of its spread, the eradication of plague can be accomplished by the practical application of these basic principles. While it is improper to mention things before persons, in this case it is the natural sequence, because rat plague is the forerunner of human plague, and it is only by a careful study of the former that we may understand how to eradicate the latter. Let us first, then, consider the plague as it exists in the rodentia.

The epizootic disease of rats known as plague is communicable to man through the agency of the flea, by infected food and air. The consideration of the prophylaxis of this disease therefore naturally falls under these heads.

Since the most remote times the connection between rats and plague has been fully recognized, but it has remained for the modern scientist to establish this beyond question. The researches of the British Commission in India have made a strong case against the rat and have proven beyond cavil the transmission of the disease by the flea. Simpson's work in Hong Kong goes a long way to prove that the dried excretions of plague infected rats entering the human system through the intestinal or respiratory tracts is followed by septicemic or pneumonic plague. It is therefore apparent that whatever measures of prophylaxis or eradication we are to take must be directed against rodentia, particularly rats and squirrels and their parasites.

First we may consider the method of the spread of the disease in rats. Here we have an animal frequenting the habitations of man and subsisting on all manner of refuse and garbage, making frequent visits to the sewers and returning therefrom gorged with all manner of filth and pollution which may be infected with any of the pathogenic bacteria. Rats become infected with plague by devouring the carcasses of their kindred who may have died of the disease, and through the agency of the flea. The well rat is quite able to defend himself from these pests, but once sick they attack him in great swarms, suck his blood, which contains the *B. pestis*, and on his death leave his cold body for the first animal from which they can secure sustentation.

In the rat we have all the types of the disease which are observed in man, and, in addition, a chronic form in which the bacterium is encapsulated in the glands of the viscera. Here we have ambulatory foci which will assist in spreading the disease.

The prophylaxis of rat plague contemplates three things: First, the destruction of rats; second, the prevention of their entrance into the habitations of man; and third, the adoption of such measures as will prevent the shipment of infected rats into non-infected territory.

To destroy the rat, his home must be made untenable and his food supply forever cut off. All rat-holes and rat-runs in infected blocks should be flushed with an active antiseptic solution, poisons such as arsenic or phosphorus paste placed therein, and the holes closed with cement or broken glass and bricks. The entire infected region should be poisoned at frequent intervals with the chemical poisons mentioned above or the biological poison known as Danysz' virus. This consists of a culture of the *B. typhimurium*, and if of high virulence is most efficacious. In 1889, Laeffler, while investigating a sporadic disease among mice, discovered the *B. typhimurium*. Danysz, recognizing the possibilities of such a bacterium, exalted its virulence until it was lethal to rats. It produces in them a contagious disease, characterized by a fatal entero-colitis. The method of distribution of this organism is to mix alkaline bouillon cultures which have been incubated from four to six days at room temperature, with yellow corn meal or any of the farinaceous foods. The cultures are liable to rapid deterioration and should therefore be spread at frequent intervals. A reliable check on its efficiency is to trap rats in the district where the poison has been spread and to quarantine them in the laboratory. On their death they are necropsied to determine if they have died of mouse typhoid. The rats should be trapped with wire cage or snap traps and an active campaign of extermination carried on against this pest, which annually destroys millions of dollars of merchandise and is a constant menace to the health of the community.

To prevent the entrance of rats into the habitations of man, all places of human occupation should be made rat-proof. This is accomplished by the